BULLETIN OF
THE NEW YORK
ACADEMY OF MEDICINE

VOL. IV. JANUARY, 1928 No. 1

ANNIVERSARY DISCOURSE

BODY AND MIND

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(Delivered before The New York Academy of Medicine, November 17, 1927)

You will not be surprised to hear that when your president, Dr. Lambert, did me the honor to ask me to address you this evening my thoughts turned to the general theme of the relations of philosophy and medicine before settling on a special topic. I was thus led to recall the beginning of both of them in Greece and to the fact that there was a time when philosophy, science and the arts, medicine included, were much closer together than they have been since. For both philosophy and the sciences were conceived and begotten of the arts. It was once their aspiration to find their issue in arts; the sciences in arts of the special branches of life and philosophy in the comprehensive art of the wise conduct of life as a whole.

There is a contemporary philosophic movement, popularly known as pragmatism, which, discontented with the current separation of theory and practise, knowledge and action, regards thought and the beliefs which proceed from it as themselves modes of action and strives to envisage them in their directive office in conduct. This movement is often regarded as a heresy, indeed as a novel and peculiarly American heresy indicative of an insensate love of keeping busy, no matter how. But in truth it marks a return to the idea of philosophy which prevailed when reflective thought was young and lusty, eager to engage in combat in the public arena, instead of living a sheltered

and protected life. In those days science and philosophy had not parted ways because neither of them was cut loose from the arts. One word designated both science and art: technē. The desire was to command practices that were rational and a reason embodied in practise. During the almost countless ages of prior human history men had pursued the arts thoughtlessly, relying upon the bare accumulation of accidental successes, without paying heed to causes and reasons. In consequence, the arts were routines, devoted to separate ends and meeting only in a common medium of magic and supernatural belief.

The Greeks define an epoch in the history of civilization because they turned back to examine these routines and accidents, and made it their business to discover the principles which underlay them in order that they might reincarnate them in a more intelligent pursuit of ends. In liberating the arts from routine and blind accumulation, they gave birth to science; in view of this achievement there arose the idea of an art of life based upon the most comprehensive insight into the relationships between conditions and ends. Medicine was one of the first-fruits of the scientific emancipation, and, since the Greeks recognized the necessity of a sound mind in a sound body for the conduct of life in its wholesomeness, medicine and philosophy were in close alliance.

The relevant facts are exhibited in the history of the school of Hippocrates. Philosophy appears in it as search for a whole which shall bind together a mass of otherwise disconnected details; while the spirit of science was operative in a loving, patient and prolonged search for facts and their significance, and the medical art was the use of the knowledge and insight thus attained. The union of these three things is seen in the school's glorification of technē; in its criticism of other schools of physicians for studying symptoms in isolation and multiplying diseases and remedies; in its emphasis upon prognosis by which was meant not just a prediction of outcome but a reconstruction of the entire course of a disease; in study of health and disease in relation to environment, climate, seasons and seasonal variations, air, water and soil, while the oath of Hippocrates endures as evidence that human and social ties were included in the wide and searching vision. What at first

sight may seem to be an attack upon mingling philosophy and medicine turns out upon closer inspection to be an attack upon basing medicine upon a narrow philosophical foundation. For the school, borrowing from Heracleitus, Empedocles and Pythagoras, insisted upon the measured harmony of all elements as the conditions of maintaining and restoring health. As Hippocrates said: "We cannot understand the body without a knowledge of the whole of things." And again, speaking of epilepsy and other disorders regarded as sacred and hence treated by means of magical incantations, he said: "These maladies, like all other things, are divine, and yet no one thing is any more divine than another. For all things alike are divine and yet each one of them has its own natural being and proceeds from a natural cause."

We may indeed now smile at the crudeness of their philosophy and science and in view of this crudeness be led to deplore the connection of philosophy, science and medical art. The disparagement of the union may readily become more pronounced when we consider the later development of various medical schools, the dogmatic, empirical, methodistic and pneumatistic, each allied with a particular school of philosophic thought. But objection is really directed against the crude state of knowledge and culture at the time, a state of which both philosophy and medicine were victims. The philosophic spirit at least kept alive the sense of need for general principles and aided in preventing relapse into the earlier crude empiricism.

This introduction is overlong, and may indeed not seem to be at all an introduction to the special topic of the evening, the relations of body and mind. But it was in the course of such reflections that I was led to this topic as a fitting theme. For the conspicuous trait of the period in which science, philosophy and the arts were closely connected was the sense of wholeness, while the very problem of mind and body suggests the disastrous effect of the divisions that have since grown up. I do not know of anything so disastrously affected by the tradition of separation and isolation as is this particular theme of body-mind. In its discussion are reflected the splitting off from each other of religion, morals and science; the divorce of philosophy from science and of both from the arts of conduct.

The evils which we suffer in education, in religion—for example the fundamentalist attack about the evolution of men rests upon the idea of complete separation of mind and body—in the materialism of business and the aloofness of "intellectuals" from life, the whole separation of knowledge and practise:—all testify to the necessity of seeing mind-body as an integral whole.

The division in question is so deep-seated that it has affected even our language. We have no word by which to name mind-body in a unified wholeness of operaton. For if we said "human life" few would recognize that it is precisely the unity of mind and body in action to which we were referring. Consequently when we discuss the matter, when we talk of the relations of mind *and* body and endeavor to establish their unity in human conduct, we still speak of body *and* mind and thus unconsciously perpetuate the very division we are striving to deny. I shall make no attempt to consider all the various theories which have developed in discussing their relation: panpsychism, epiphenomenalism, pre-established harmony, interactionism, parallellism, etc. I shall not even try to prove their unity. I shall beg that question and devote the time to stating the nature of the unity and considering some of the causes which work against recognition of it.

I have used, in passing, the phrases "wholeness of operation," "unity in action." What is implied in them gives the key to the discussion. In just the degree in which action, behavior, is made central, the traditional barriers between mind and body break down and dissolve. Were this the fit time and place, it could be shown, I think, that the habit of regarding the mental and physical as separate things has its roots in regarding them as substances or processes instead of as functions and qualities of action. In contrast to such a notion, it is asserted that when we take the standpoint of human action, of life in operation, body presents itself as the mechanism, the instrumentality of behavior, and mind as its function, its fruit and consummation. To the interpretation of this statement our further remarks are given.

When we take the standpoint of action we may still treat some functions as primarily physical and others as primarily mental. Thus we think of, say, digestion, reproduction and

locomotion as conspicuously physical, while thinking, desiring, hoping, loving, fearing are distinctively mental. Yet if we are wise we shall not regard the difference as other than one of degree and emphasis. If we go beyond this and draw a sharp line between them, consigning one set to body exclusively and the other to mind exclusively we are at once confronted by undeniable facts. The being who eats and digests is also the one who at the same time is sorrowing and rejoicing; it is a commonplace that he eats and digests in one way to one effect when glad, and in another when he is sad. Eating is also a social act and the emotional temper of the festal board enters into the alleged merely physical function of digestion. Eating of bread and drinking of wine have indeed become so integrated with the mental attitudes of multitudes of persons that they have assumed a sacramental spiritual aspect. There is no need to pursue this line of thought to other functions which are sometimes termed exclusively physical. The case of taking and assimilating food is typical. It is an act in which means employed are physical, while the quality of the act determined by its consequences is also mental. The trouble is that instead of taking the act in its entirety we cite the multitude of relevant facts only as evidence of influence of mind on body and of body on mind, thus starting from and perpetuating the idea of their independence and separation even when dealing with their connection. What the facts testify to is not an influence exercised across and between two separate things, but to behavior so integrated that it is artificial to split it up into two things.

The more human mankind becomes, the more civilized it is, the less is there some behavior which is purely physical and some other purely mental. So true is this statement that we may use the amount of distance which separates them in our society as a test of the lack of human development in that community. There exists in present society, especially in industry, a large amount of activity that is almost exclusively mechanical; that is carried on with a minimum of thought and of accompanying emotion. There is a large amount of activity especially in "intellectual" and "religious" groups in which the physical factor is at a minimum and what little there is is regretted as a deplorable necessity. But either sort of behavior in the degree

of its one-sidedness marks a degradation, an acquired habit whose formation is due to undesirable conditions; each marks an approximation to the pathological, a departure from that wholeness which is health. When behavior is reduced to a purely physical level and a person becomes like a part of the machine he operates, there is proof of social maladjustment. This is reflected into disordered and defective habits of the persons who act on the merely physical plane.

Action does not cease to be abnormal because it is said to be spiritual and concerned with ideal matters too refined to be infected with the gross matter. Nor is it enough that we should recognize the part played by brain and nervous system in making our highly intellectual and "spiritual" activities possible. It is equally important that we realize that the latter are truncated and tend toward abnormality in the degree that they do not eventuate in employing and directing physical instrumentalities to effect material changes. Otherwise that which is called spiritual is in effect but indulgence in idle phantasy.

Thus the question of the integration of mind-body in action is the most practical of all questions we can ask of our civilization. It is not just a speculative question; it is a demand: a demand that the labor of multitudes now too predominantly physical in character be inspirited by purpose and emotion and informed by knowledge and understanding. It is a demand that what now pass for highly intellectual and spiritual functions shall be integrated with the ultimate conditions and means of all achievement, namely the physical, and thereby accomplish something beyond themselves. Until this integration is effected in the only place where it can be carried out, in action itself, we shall continue to live in a society in which a soulless and heartless materialism is compensated for by soulful but futile and unnatural idealism and spiritualism. For materialism is not a theory, but a condition of action; that in which material and mechanical means are severed from the consequences which give them meaning and value. And spiritualistic idealism is not a theory but a state of action; that in which ends are privately enjoyed in isolation from means of execution and consequent public betterment.

In insisting upon the need of viewing action in its integrated wholeness, the need of discriminating between different qualities of behavior due to the mode of integration is emphasized, not slurred. We need to distinguish between action that is routine and action alive with purpose and desire; between that which is cold, and as we significantly say inhuman, and that which is warm and sympathetic; between that which marks a withdrawal from the conditions of the present and a retrogression to split off conditions of the past and that which faces actualities; between that which is expansive and developing because including what is new and varying and that which applies only to the uniform and repetitious; between that which is bestial and that which is godlike in its humanity; between that which is spasmodic and centrifugal, dispersive and dissipating, and that which is centred and consecutive. Until we can make such distinctions and make them in a multitude of shades and degrees, we shall not be able to understand the conduct of individuals, and not understanding, shall not be able to help them in the management of their lives. Because of this lack, education will be a guess in the dark; business a gamble in shifting about and circulating material commodities, and politics an intrigue in manipulation. What most stands in the way of our achieving a working technique for making such discriminations and employing them in the guidance of the actions of those who stand in need of assistance is our habitual splitting up the qualities of action into two disjoined things.

It is necessary, however, to be explicit upon what is meant by saying that within the unity of behavior body stands for the means and agencies of conduct, and mind for its incorporated fruits and consequences. The bodily phase of action may be approached and studied in two ways. We may take it in its connection with processes which are going on outside the body, the processes which it shares with inanimate things. Or we may take it in connection with what it actually does and effects in the distinctively human medium. The first mode of approach views action in all its modes as a variegated complex of physico-chemical interactions. This kind of study is more than legitimate; it is indispensable. If organic changes are regarded as something unique, cut off from and unlike in kind to those occurring

in inanimate nature, we cannot understand them, and therefore cannot direct and modify the manner of their taking place. Only when we identify them with events in inanimate nature does our knowledge in physics and chemistry become available for knowing them; only then do the appliances and techniques that we have developed for control of affairs outside the body become adaptable for use in dealing with what goes on within the body. As long as organic processes and changes are connected with any unique, non-physical force or principle, our knowledge of them is rudimentary and accidental. When they are seen to be shared with processes going on in inanimate nature, all that is discovered about the latter becomes an intellectual tool for systematic knowledge of vital process and the apparatus and technics for directing physical nature are capable of utilization in hygienic, medical and surgical treatment of bodily changes.

If this were the whole of the story, bodily action would be wholly assimilated to inorganic action, and the inclusion of the body in behavior that has mental quality would be impossible. The remainder of the story is that chemico-physical processes go on in ways and by interactions which have reference to the needs of the organism as a whole and thus takes on psychical quality, and in human beings at least are in such connection with the social environment as confers upon them intellectual quality. Any notion that human action is identical with that of non-living things or with that of the "lower" animals is silly. It is contradicted by the fact that behavior is so *organized* in human beings as to have for its consequence all that we call civilization, culture, law, arts—fine and industrial, language, morals, institutions, science itself. And by its fruits we know it. Organic processes are thus seen to be the constituent means of a behavior which is endued with purpose and meaning, animate with affection, and informed by recollection and foresight. In the end, the bodily is but a name for the fact that wherever we have consequences, no matter how ideal, there are conditions and means. Materialism does not consist of a full and frank recognition of this fact, but in the isolation of means and conditions from what they actually do.

We have spoken so much of action and behavior that it is

needful that we should be explicitly aware of what these words signify. In particular it is indispensable to note that when we are dealing with human behavior, the word designates a kind of behavior in which outcomes of the past and outlook on the future are incorporated; with something longitudinal and not something cross-sectionally lateral. We may isolate a particular organic structure or process for study. In as far as we do so, we regard it as similar to arrangements and processes which are shared with inanimate things. But we cannot understand the organism until we have taken its history into account. We have to know whether we are studying an embryonic, an infantile, a mature or a senescent form. We have to place the particular affair studied in a career of development. In dealing with a special chemical reaction, say that of hydrogen and oxygen in bringing water into existence, we may neglect past history. We select a brief segment for study because we are not concerned with the individuality of the molecules involved; it is enough that what happens is a specimen of something which recurs and is repeated in other situations independently of the individuality of just these molecules. This is precisely the omission we cannot make in studying phenomena of human behavior. A human being carries his past in his habitudes and habituations, and we can rightly observe and understand the latter only as we are aware of the history which is included within them. That the practitioner, physician, psychiatrist and educator, is capable of dealing intelligently with the phenomena which confront him only when he knows something of their life history is a commonplace. And it is not just the life history of the particular symptom of disorder he needs to know but the life history of the individual in whom it appears. It is equally a commonplace that the need of such knowledge of life history as a whole increases in the degree in which the mental phase of disturbance is prominent.

Such facts point to what is signified when it is said that human behavior is longitudinal, not just cross-sectional. It forms a history, an autobiography, not indeed written but enacted. The import of this fact in relation to the mental phase of action should be evident. When it is neglected, any item of behavior is regarded as an immediate lateral cross-

section, and thus becomes purely mechanical, and without intellectual and emotional quality. This is precisely what happens when a reflex or specific reaction to a specific stimulus is treated as the unit of behavior, and all other behavior is treated as a compound of such units. Since the simple reflex is devoid of emotional and intellectual quality, it then logically follows that mind is not a property of any behavior. It is a fiction or a meaningless by-product accompaniment like the beauty of a rainbow with reference to a purely physical account of the refraction of light by vapor. To assert, then, that *conscious* behavior is a fiction is to draw a logical deduction from a premise, not to observe a fact. And since the fact of conscious behavior, of observing, analyzing, noting, reasoning, is involved in the whole undertaking, the absurdity of the conclusion shows the falsity of the premise. We know that the structures involved in reflexes are not as matter of fact primitive and original. The converse is true as both phylogeny and ontogeny prove. The beginning is with action in which the entire organism is involved, and the mechanism of reflexes is evolved as a specialized differentiation within an inclusive whole of behavior. The assumption that the nature of behavior is exemplified in a simple reflex is a typical case of the fallacy of neglecting development, historical career. In consequence an account of the mechanism of a particular account of behavior is converted into an account of behavior in its entirety. Only in this fashion is the role of the mental in action relegated to the realm of fiction.

The criticism may be broadened to take in the whole reduction of mental phenomena to the stimulus-response type as that reduction obtains in current psychological theory, even among those who do not call themselves behaviorists. There is no doubt that any item of behavior can be stated in terms of a response to a stimulus—just as it may be stated in terms of cause-effect. But as the doctrine is usually employed it omits to consider the one question which is scientifically and practically important: namely, how did an object or situation acquire the capacity to *be* a stimulus? For to be a stimulus in evoking a response is an additive property of physical things. The organism is constantly surrounded by indefinitely numerous conditions which affect it. If we regard them all as stimuli

because they enter into casual interaction with the living creature we say in effect that the whole universe is stimulus and also response. Such a view clearly makes the theory worthless for purposes of *analysis*. It is the occurrence of a particular mode of action we are trying to describe and account for, an attempt which implies that some special feature of the environment is so weighted as to operate as stimulus. Now what makes some physical thing or trait a stimulus is the condition of the whole organism at the time, its needs and the kind of behavior in which it is already engaged. And both of these things are longitudinal, historical; they include factors formed in previous life history. Any particular thing at any particular time is a stimlus, evoking an adaptive response and use, only in virtue of the enacted biography of the organism.

There is an attempt to recognize the importance of historical development in some forms of the stimulus-response theory. Present behavior is traced back to original "bonds" in the nervous system which are innate, or to behavior in the form of what are usually called instincts. Thus previous development is nominally taken into account. But such recognition of life history is nominal rather than real. An earlier cross-section of behavior is postulated back of which development is not traced. Consequently the position of the lateral segment in the development of action as a whole is left out. The theory is only a verbal re-statement of the compounding of reflex units theory; the only difference is that an "instinct" or a performed "bond" of stimulus and reaction, is somewhat more extensive and complex than is a reflex. But since it is not sufficiently complex and extensive to take in the needs, demands and disposition of the organism as a whole, the basic fallacy remains the same.

The reference to stimuli proceeding from the environment brings us in effect to the second way in which the account of behavior is rendered so partial and split off that its mental phase has either to be denied as a fiction or else regarded as mysterious and unnatural. For the stimulus-response theory, as usually held, cuts off the environment from behavior. It treats environment simply as an external occasion from which behavior proceeds. Behavior is thus treated exclusively as going

on inside the organism, something which is simply set off or initiated by the environment. In reality, the environment is just as much comprised within behavior as are organic processes. Behavior is not just something which goes on *in* a surrounding medium. If it were, behavior could be studied and described as something which goes on in the organism or which goes forth out of it in total neglect of environment, save the reference to some part of the latter as a touch-and-go stimulus. Behavior in fact is a continuous interaction in which environing as well as organic factors are included. This is true even of the functions we often regard as exclusively physiological. We do not just breathe, we breathe air; we do not just digest, we digest foodstuffs. We do not just move the legs and body; we walk on the ground, and from one place to another, so as to obtain a more favorable environment to be incorporated in subsequent behavior.

To describe the structures and processes of the organism in isolation, in their exclusive reference to organic structures, and then call the result an account of behavior, is to omit the most distinctive character of behavior. Sherrington's classic work "The Integrative Action of the Nervous System" marks an epoch in the development of science. What is it which the action of the nervous system integrates? Simply its own, turning upon itself as a snake is said to swallow its tail? Clearly not, but the behavior of the entire organism of which it is a part. But when and how is the action of the organism integrated? There can be one answer. It is integrated in the degree that it utilizes and transforms its environment by means of incorporating some element of the latter within behavior. Utilization here signifies that something in the surroundings is rendered a means in the carrying on of some phase of behavior, as assimilation of food and the breathing of air maintains life-behavior itself. Transformation signifies that some part of surrounding conditions is actually changed so that the environment is modified into a form more favorable than before to the maintenance of life-behavior. To describe the action of a part of the nervous system, or of the entire nervous system, or of the entire organism in isolation from the environment included within behavior is like thinking that we can understand

a machine, say a loom, if we omit the material, the yarn, upon which it works and the transformation of the material into cloth wrought in the operation. Since the mental, if it can be found anywhere, must be found in behavior which comprises *objects* of desire, thought and affection, to accept the premise which identifies behavior with the action going on inside the organism is to commit ourselves to denial of mental quality as a dialectical conclusion from a premise. Many persons will remain so assured that mental phenomena are actual facts, that they will then prefer to go on believing in them, and will treat them as proofs of a mysterious substance called mind, soul or consciousness. Thus the one-sidedness of the theory about behavior perpetuates the very tradition which a complete account of behavior would eliminate.

The bearing of the one-sided omission of environment in description of behavior upon the truly mental phase of behavior is most evident when we consider the elimination of the human or social environment. For it is the incorporation of this environment in action which is most intimately and extensively connected with the intellectual and emotional quality of behavior. The question of the role of language and other constructed signs in mind gives a crucial test. I do not question the connection of thinking with speech and other signs. Speech and the use of signs is an affair of behavior. What is questionable is the elimination of relations with other human beings from the account given of language habits and of thinking conceived as "exercised implicitly behind the closed doors of the lips"—in other words as something which goes on subcutaneously, wholly inside the organism. Such a description reduces speech to vocalization or making of sounds, and thinking to a silent exercise of the organs of vocalization and other internal structures. Now the making of sounds is not speech. Sounds issuing from vocalization are speech only when they are used to institute a mode of behavior on the part of another human being which will favorably affect the behavior of the one speaking. Sounds issue from phonograph or radio, sounds which imitate articulate speech. The phonograph does not speak, however. For while the sounds that issue may induce action on the part of others, anticipation of such action does not

enter as a factor in its putting forth of sounds. Any modification of the behavior of others which is affected by the sounds emitted by the radio is not incorporated as a factor in *its* behavior. Precisely such inclusion of objective social consequences is what transforms sounds into speech or language, as may be seen from taking any simple case of command, request or advice. Speech is primarily a mode of action by which the behavior of one is so influenced by the expected or hoped for behavior of others as to become an integral part of concerted action.

Thinking as implicit speech is made on the same pattern. It represents the social situation carried over into the habits of the organism. One talks to himself as a way of anticipating objective consequences (that is, consequences into which the environment enters) before they happen, and as a means of eventually securing those which are disliked. This renders behavior intelligent, thoughtful. It is all to the good when "consciousness" is thrown overboard as a substance or separate process designated by a noun: for "ness" indicates that the noun is abstract and results from erecting a quality of action into a thing in itself. But the quality of being conscious remains; the difference between behavior that is aware of what it is about and routine or impulse behavior is as marked a factual difference as we can anywhere discover. To deny the reality of meaning as something mysterious and unnatural, outside of connection with the range of interactions which form behavior, is to the good. But refusal to admit meaning as a quality of behavior is another matter, and one which confutes itself. For the propounders of the doctrine that meaning is non-existent address words on that subject to others; they expect their language to be understood and not be taken as a nonsensical farrago; they anticipate consequences in the way of modified behavior to result from understanding and their language behavior is modified by this expectation of response. They take it for granted that some behavior has meaning; this cannot be granted without implying that some behavior, their own for example, in the observations and analyses whose conclusion they present, is conscious: that is, is aware of what it is about, of what it is doing and trying to do. The conception of behavior

in its integrity, as including a history and environment is the alternative to a theory which eliminates the mental because it considers only the behavior of the mechanism of action as well as the theory which thinks it ennobles the mental by placing it in an isolated realm.

Thus we are reminded of our beginning, the recall of happier days when the divorce of knowledge and action, theory and practise, had not been decreed, and when the arts as action informed by knowledge were not looked down upon in invidious disparagement with contemplation complete in itself; when knowledge and reason were not so "pure" that they were defiled by entering into the wider connections of an action that accomplishes something because it uses physical means. There are signs that we are perforce, because of the extension of knowledge on one side and the demands of practise on the other, about to attempt a similar achievement on our own account. I close with suggesting the imperative need of such an integration in the art of education, an integration which can become real only as the scientific man, the philosopher, the physician and psychiatrist cooperate.

The art of education is one in which every person is compelled whether he will or not to take an interest, because it so intimately concerns his own conduct. A person may begin with a narrow interest, one that cares only about, say, the education of his own children or of members of his own profession. But he does not go far before he is forced to note that he is building on a sandy foundation because of deficiencies due to earlier education. Professional education has its results limited and twisted because of the general state of education. Surveying that, it appears that its improvement cannot be made secure merely by better training of teachers. Parents, school officials, taxpayers have the last word, and the character of that word is dependent upon their education. They may and do block or deflect the best laid plans. That is the circle in which education moves. Those who received education are those who give it; habits already engendered deeply influence its course. It is as if no one could be educated in the full sense until everyone is developed beyond the reach of prejudice, stupidity and apathy.

There is no possibility of complete escape from this circle. Education returns upon itself in such a multitude of ways as to render out of the question any short cut solution. It is a matter of accelerating momentum in the right direction, and of increasing the effective energy of the factors that make for removing obstacles. Chief among these obstacles are the practices which are associated with the traditional separation of mind and body and the consequent neglect of informed and intelligent action as the aim of all educational development. The division has affected every subject of study, every method of instruction and discipline. More than anything else it explains the separation of theory and practise, of thought and action. The result is a so-called cultural education which tends to be academic and pedantic, in any case aloof from the concerns of life, and an industrial and manual education which at best gives command of tools and means without intelligent grasp of purposes and ends. The consequences of this divided education are writ large in the state of our civilization. The physician meets them in a wide range of induced disorders, to say nothing of waste and incapacitation. The walls which mark the separation are beginning to crack, although they are far from crumbling. From all sides the artificiality of isolation from one another of mind and body are commencing to be seen. There is at least the beginning of cooperation between those who are traditionally occupied with the concerns of mind and those busy with the affairs of the body. The planning of any good school building is an illustrative symbol. Architect, engineer, hygienist, teacher and public official may join forces. But there are still many who should have a say, like the psychologist, who are left out, and such cooperation as there is lacks balance. It would be interesting for example to know what physicians would say of the wisdom of the herding together of thousands of children in our gigantic buildings with the enforced need of dealing with children en masse and the institution of lockstep methods—would say if they were consulted and if they thought their voice would be heeded. The growing interest in pre-school education, nursery schools and parental education, the development of medical inspection, the impact of social hygiene, the institution of school visitors and the use of schools as social centres are other

evidences that the isolation of schools from life is beginning to give way because of cooperative action. But not even the most optimistic would hold that we have advanced beyond the outer breastworks. The forces are still powerful that make for centrifugal and divisive education. And the chief of these is, let it be repeated, the separation of mind and body which is incarnated in religion, morals and business as well as in science and philosophy. The full realization of the integration of mind and body in action waits upon the reunion of philosophy and science in art, above all in the supreme art, the art of education.